

BASAL INTERVENTRICULAR SEPTAL ANEURYSM IN RHEUMATIC MITRAL STENOSIS

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A 25-year-old male presented to our department with complaints of dyspnea on exertion of 6 months duration. General examination revealed a regular pulse of 80 per minute, blood pressure of 100/70 mm Hg and a raised jugular venous pressure. There was a diastolic thrill at the apex along with a mid diastolic murmur. Electrocardiogram showed P mitrale. Two dimensional transthoracic echocardiography showed severe calcific mitral valve stenosis (Fig. 1, arrow in A and C) with a resting peak and mean gradient across the mitral valve of 30 mm Hg and 13 mm Hg respectively (Fig. 1D). The jet of the mitral stenosis was eccentrically directed (Fig. 1B and C) towards the basal interventricular septum (IVS) which lead to aneurysmal defect of the basal IVS (Fig. 1A, arrowhead, Supplementary movie 1). Patient underwent successful mitral valve replacement with metallic bi-leaflet prosthesis and is doing fine on follow-up.

Aneurysm arising from the basal muscular IVS are very rare.¹⁾ Most of such aneurysms are congenital in origin, but

even in that cases, the basal portion of the muscular IVS is spared.²⁾ Our patient had a well defined aneurysm of the basal IVS which was contractile in nature. The mechanism behind the development of aneurysm in our case might be the eccentric jet of mitral stenosis constantly striking the basal IVS region. Aneurysmal deformity of the basal IVS secondary to impinging turbulent transprosthetic eccentric flow jet has also been previously reported.³⁾ The aneurysmal deformity in our case may be congenital or idiopathic, but the previous echocardiographic records did not mention such a deformity.

In summary, this is a rare case of a basal IVS aneurysm coexisting with and likely to be caused by eccentric jet of rheumatic mitral valve stenosis.

SUPPLEMENTARY MOVIE LEGEND

Movie 1. Two dimensional transthoracic echocardiography with color Doppler. Apical four chamber view showing the presence of severe calcific rheumatic mitral valve stenosis with

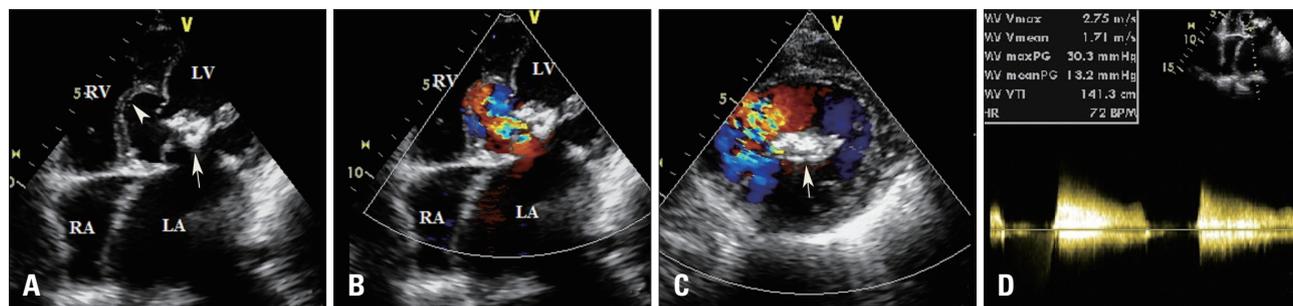


Fig. 1. Two dimensional transthoracic echocardiography. The presence of severe calcific mitral stenosis can be seen in apical four chamber as well as short axis view (arrow in A and C) with a mean and peak resting gradient of 30 mm Hg and 13 mm Hg respectively on continuous wave Doppler (D). The jet of the mitral stenosis is eccentrically directed towards the basal interventricular septum (color flow in B and C) likely responsible for the aneurysmal defect of the basal septum (arrowhead in A). Also note the marked dilatation of the LA. LA: left atria, LV: left ventricle, RA: right atria, RV: right ventricle.

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the jet of the mitral stenosis eccentrically directed toward the basal interventricular septum. The constant hammering by the eccentric jet was likely responsible for the aneurysmal defect of the basal interventricular septum. Also note the dilated left atria. LA: left atria, LV: left ventricle, RA: right atria, RV: right ventricle.

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